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ABSTRACT

This study examined the interactions between teachers and children in three kindergarten classrooms. Programs used in the classrooms were: a direct-instruction (DI) program, representing a cultural transmission paradigm; a contructivist program (CON), representing the cognitive-developmental paradigm; and an eclectic program (ECL), combining elements of the other two programs. Teacher-child interactions were observed and coded according to categories of negotiation strategies (NS) and shared experiences (SE). Ratings for NS ranged from Level 0, exercise of will, to Level 3, striving for mutual understanding. Ratings for SE ranged from Level 0, impulsive enthusiasm, to Level 3, mutual collaboration in sharing. Results indicated that the CON teacher had the most SE with children and the DI teacher the least. The CON teacher had a higher percentage of Levels 2 and 3, and a lower percentage of Level 0, for NS and SE than did the DI and ECL teachers. The DI teacher exhibited an authoritarian orientation and an academic emphasis. The CON teacher exhibited a cooperative orientation and an emphasis on stimulation of reasoning. The ECL teacher was more similar to the DI teacher than to the CON teacher. A list of 34 references is included. Two appendixes describe the categories of negotiation strategies and shared experience. (BC)

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SOCIOMORAL ATMOSPHERE IN DIRECT-INSTRUCTION, ECLECTIC, AND CONSTRUCTIVIST KINDERGARTENS:

A STUDY OF TEACHERS' ENACTED INTERPERSONAL UNDERSTANDING

Rheta DeVries
John P. Haney
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Abstract

The sociomoral atmospheres of three kindergarten classrooms were studied through analysis of the teachers' enacted interpersonal understanding. Three public school teachers were videotaped for two days each as they implemented a direct-instruction program (DI) called DISTAR, representing the cultural-transmission educational paradigm, a constructivist program (CON) representing the cognitive-developmental paradigm, and an eclectic program (ECL), the latter reflecting elements of both the other paradigms. Teacher-child interactions were coded microanalytically from transcripts and video on 89 categories of Negotiation Strategies (NS) and Shared Experiences (SE) at four levels of interpersonal understanding as conceptualized by Selman. Analysis of 20,914 NS and SE showed that the CON teacher had the most SE with children and DI the least. The CON teacher had much higher percentages of Levels 2 and 3 and much lower percentages of Level 0 NS and SE than both DI and ECL. A strong authoritarian orientation and academic emphasis were found for the DI teacher. A cooperative orientation and emphasis on stimulation of reasoning were found for the CON teacher. The ECL teacher was less authoritarian and academic in orientation than the DI teacher but was more similar to her than to the CON teacher.

Sociomoral Atmosphere in Direct-Instruction, Eclectic, and Constructivist Kindergartens: A Study of Teachers' Enacted Interpersonal Understanding

Rheta DeVries, John P. Haney, and Betty Zan

The goal of this exploratory study is to describe sociomoral atmosphere in three kindergarten classrooms reflecting different paradigms in educational thought. By "sociomoral atmosphere" we refer to the entire network of interpersonal relations that constitutes a child's experience in school. In this network, the relationship and interaction with the teacher comprise a central component of a child's sociomoral experience. We therefore focus in this study on the teacher's interactions with children. We assume interpersonal understanding to be central to sociomoral atmosphere, and interactions are therefore conceptualized in terms of the interpersonal understanding they express. We talk about "enacted" interpersonal understanding to emphasize that we are focusing on understanding expressed at the moment of interaction rather than what may be verbalized in a reflective interview. This study is companion to another study, reported in this issue, of the enacted interpersonal understanding of children in the three classrooms (DeVries, Learned, and Morgan, 1991). Together, these two studies address the issue of the relationship between children's developing interpersonal understanding and their experiences in kindergartens differing widely in theory and practice.

The comparison of paradigm prototypes is inspired in part by Kuhn's (1970) conception of scientific paradigms in the natural sciences as it has been extended by Tuthill and Ashton (1983) to education. They point out that almost all classrooms are "conglomerates of contradictory elements" and that teachers "eclectically apply teaching strategies derived from conflicting scientific paradigms, using a little behaviorism here and a little humanism there, for example (p. 10)." Tuthill and Ashton argue that "such eclecticism significantly reduces the likelihood that researchers will be able to make sense of research results obtained in such classrooms (p. 10)." They call for conscious development and study of "pure prototypes" that avoid the usual eclecticism, in order to evaluate the practical effects of educational paradigms. This study is an attempt to respond to this call.

The study's broad theoretical orientation is situated in Kohlberg and Mayer's (1972) conceptualization of three streams in educational thought: romanticism, cultural-transmission, and cognitive-developmental. These streams reflect different educational psychologies having different epistemologies and value systems, and lead to different strategies for defining educational objectives and evaluating educational experience. In the research reported here, "pure prototypes" of cultural-transmission and cognitive-developmental paradigms are studied. The cultural-transmission worldview is represented by a direct-instruction (DI) program called DISTAR, and the cognitive-developmental worldview is represented by the constructivist

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(CON) program. Direct-instruction and constructivist programs were selected for comparison because they differ sharply in assumptions about how knowledge is acquired, educational objectives and activities, and role of the teacher. An eclectic (ECL) program having some characteristics of both constructivist and direct-instruction programs is included to illuminate comparisons.

The Prototypic Programs: Theory and Practice

The direct-instruction approach exemplified by DISTAR (Engelmann, 1969; Engelmann and Carnine, 1975; Engelmann and Osborn, 1977; Engelmann and Bruner, 1983) reflects the cultural-transmission epistemological assumption of knowledge as accumulated bits of information coming from outside the individual to the inside in unmodified form. DISTAR, with its aim of success in school, defines educational objectives in terms of the standards of knowledge and behavior found in existing schools. These objectives are realized through group lessons in language, reading, and arithmetic, and individual worksheet assignments. Children are evaluated with frequent mastery tests and with standardized achievement tests.

DISTAR is designed to be "teacher-proof." The role of the DISTAR teacher is to follow without deviation instructions for programmed lessons by directing children in individual and group recitation and fast-paced drills. Contingent reinforcement is used to control children's academic behavior (through rewarding right answers and on-task behavior with praise or candy and extinguishing error by correcting wrong answers). The DISTAR

teacher manages classroom behavior by providing verbal rules and strictly reinforcing these rules with positive consequences for compliance and negative consequences for noncompliance.

Constructivist education (overview in DeVries and Kohlberg, 1987/1990) reflects the cognitive-developmental epistemological assumption of knowledge as constructed by a knower who actively interprets experience--that is, makes sense of it in terms of what she already knows and how she already reasons. Limitations in reasoning structure and knowledge inevitably lead to many "erroneous" ideas, from the adult perspective. However, error is regarded as evidence of intelligence at work. Through the continued exercise of reasoning, the child in this worldview gradually transforms the interpretive framework itself, evolving through progressively more adequate forms (structural stages of development) of cognition and moral reasoning. Constructivist education thus explicity states its value system as ethical and cognitive universals. These are stated psychologically in terms of stages or levels. Examples are Piaget's (1970) stages of operational reasoning, Kohlberg's (1971, 1984) moral stages of justice reasoning, and Selman's (1980) stages of interpersonal understanding.

Constructivist education attempts to foster development through activities that appeal to children's interests, involve experimentation with phenomena of the physical world, and create the need for social interaction leading to co-operation. The constructivist child's day includes art, blockbuilding and other construction activities, physical-knowledge activities, and

collective activities. Collective experiences include listening to stories, playing group games, discussing moral dilemmas, planning group projects such as making a class art museum or cooking lunch for parents. Reasoning about number, arithmetic, written language, and sociomoral issues is fostered and evaluated in the context of activities that children pursue out of their own personal interests and purposes. The role of the constructivist teacher is to create an atmosphere that fosters active reasoning. She proposes rather than imposes activities, organizing the logistics so children can choose from a variety of possibilities and even invent their own activities. She engages with children as a warm and supportive collaborator, a companion/guide who minimizes the exercise of adult authority without, however, being permissive. She does not correct children's erroneous ideas but encourages them to experiment and correct their own ideas when they can do so by observing the results of their actions. She establishes a democratic atmosphere in which children vote, make their own classroom rules, and discuss what to do when rules are not respected. The constructivist program is particularly unique in its inclusion of interpersonal conflict and its resolution as part of the curriculum. The teacher invests considerable time in mediating children's conflicts, helping them to consider the other's perspective and develop new strategies for dealing with conflicts. The sociomoral atmosphere sought by constructivist teachers is a feeling of community characterized by a spirit of fairness, mutual concern, friendship, and positive shared

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experiences.

The Teacher-Child Relationship and Sociomoral Development

Theoretically, our hypotheses of differences in sociomoral atmospheres of direct-instruction and constructivist programs are anchored in Piaget's (1932/1965) distinction between two types of adult-child relationships leading to two types of morality.

The heteronomous adult-child relation is one of coercion in which the adult prescribes what is necessary for the child to do by giving him ready-made rules and instructions for behavior. The child's reason for behaving is thus external to his own reasoning and system of personal interests and values. In Piaget's view, following the rules of others through a morality of obedience or of duty will never lead to the kind of reflection necessary for commitment to a set of internal or autonomous principles of moral judgement. Piaget warns that constraint socializes only the surface of behavior and actually reinforces the child's tendency to rely on purely external regulation.

The heteronomous relationship contrasts with a second type of adult-child relationship in which the adult respects the child by giving her the possibility to regulate her behavior voluntarily. He argues that only by refraining from exercising authority can the adult give the child the possibility to create, at least in part, her own rules, values, and guidelines for action.

Piaget therefore connected these types of adult-child experience with two types of morality. The first type is heteronomous morality in which the individual follows moral rules

given by others out of obedience to authority having coercive power. The second type of morality is autonomous morality in which the individual regulates his behavior in relation to others by means of self-constructed, self-accepted principles out of a feeling of personal necessity.

The direct-instruction worldview and program of instruction seems unavoidably to lead to a heteronomous teacher-child relationship. The DISTAR teacher who follows the prescribed teaching instructions must be authoritarian and cannot accept children's errors. In contrast, the constructivist worldview leads to a cooperative teacher-child relationship. The constructivist teacher fosters autonomy by basing the curriculum on children's interests, encouraging children's own reasoning, and accepting their errors. It should be noted, however, that the constructivist teacher is not permissive and cannot avoid heteronomy at times (for example, in situations involving children's safety or health). (See DeVries and Kohlberg, 1987/1990, for a fuller discussion.) Neither do we expect a direct-instruction teacher to be heteronomous in everything she does. What we do expect is that the experience of children in the direct-instruction classroom will be predominantly heteronomous, experience of children in the constructivist classroom will be relatively more autonomous, and experience of children in the eclectic classroom will be in between that of direct-instruction and constructivist classrooms.

A number of studies suggest a relationship between institutional climate or moral atmosphere and individual moral

development (reviewed by Power, Higgins, and Kohlberg, 1989). Studies with adolescents and adults suggest that conditions for moral growth include opportunities for open discussions that focus on fairness, stimulate cognitive conflict by exposure to different points of view and higher-stage reasoning, and allow participation in rule-making and the exercise of power and responsibility.

Teachers' Enacted Interpersonal Understanding

Selman's work on the development of interpersonal understanding helps us define our expectations empirically in terms of teacher-child interaction. On the basis of research, Selman (1980; Selman and Yeates, 1986; Schultz, Yeates, and Selman, 1989) conceptualizes developmental levels of interpersonal understanding in terms of two types of experiences --negotiation, where the developmental goal is identity separate from others (Selman and Demorest, 1984; Selman, Beardslee, Schultz, Krupa, and Podorefsky, 1986; Selman and Schultz, 1987; Selman, undated), and shared experiences, where the developmental goal is intimacy or mutuality with others (Selman and Yeates, 1986; Selman, 1989).

Negotiation strategies (NS) describe interaction when an interpersonal dynamic is in disequilibrium. Disequilibrium is present in a certain tension between interactors that requires some action to resolve it. The tension may be mild as when one actor makes an assertion of opinion (to which the other' responds by agreeing, disagreeing, or ignoring) or strong as when one attacks the other physically or verbally (to which the other

responds by counter-attacking or giving in). Negotiation at Level 0 is the impulsive exercise of raw will or giving in to raw will: Others are objects. At this level, negotiation strategies are primarily physical actions to get what one wants or allow oneself to be overwhelmed by another's physical intimidation. Level 1 negotiation is the unilateral expression of the self's needs or wishes: Others are to control or be controlled by. Level 2 negotiation reflects consideration of the other's needs or wishes through an effort to coordinate these with one's own: Others are to persuade or be persuaded by. Level 3 negotiation strives for mutual understanding: Others are to understand and be understood by.

Let us consider some interactions illustrating these levels of negotiation strategies. In the following excerpts, negotiation strategies are indicated by straight brackets ([. . .]), and shared experiences are indicated by curved brackets ({. . .}). (See Appendix A for category definitions.)

[0-Overwhelming Other]	T: V, <u>please</u> (angry tone; slaps bock on lap).
[1-Demanding]	Scoot back there--next to O.
[0-Humiliating]	Do we need to put you in pre-kindergarten again?
[0-00, continued]	(Glares at V for several seconds with very hard stare and stern expression)
[1-Threatening]	If you want to go back to Ms. _____'s room (pre-kindergarten), you may.

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[1-Demanding] T: Go sit down.

[0-Physical Grabbing] (Jerks book out of child's hands)

[0-Physical Grabbing] (Grabs child's shoulders and pulls him toward her)

[1-Criticizing] V, I want you to stop acting silly.

[1-Asking Test Question] T: What is this dinosaur's name?

C: Brontosaurus.

[1-Acknowledging Academic Work] T: Yes, Brontosaurus.

[1-Demanding] T: Would you move like she asked you to,
[1-Criticizing] since that's not where you're supposed
[1-Punishing] to be? Matter of fact, put a card by your name. (After a certain number of cards, the child is spanked.)

T: (Enters area where children have
[1-Affirming Child] been cleaning) Well, it looks mighty
[2-Checking Out with Other] clean in here to me. Does it suit both of you?

C: (Wants to read Gingerbread Man instead of The Three Bears that group has voted to read)

[2-Justifying in Terms of Group] T: Well, we already voted, so we're going to do this story.

[3-Encouraging Solution to Interpersonal Problems] T: What's the problem?

C: (Children are arguing over toy giraffe) I had it first!

[3-ESI, continued] T: How about if I hold it for a minute? It looks like it might break.

C: I had it first!

[2-Warning of Logical Consequences] T: There's a part here that if you pull on it, that will come off and then the head will be broken.

C: (Children are dividing up toys, and one child complains that C is taking more.)

[3-Encouraging Fairness] T: Is that fair, C, to have more?

C: (Complains about what other child did)

[3-Stating Points of View] T: Was it an accident or on purpose?

C: She went like that. She just stepped on it.

[3-SPV] T: Well, it looked to me like she was rushing over to tell K she could get up (from nap) and that she didn't see it. That's what I saw. I don't think she was trying to wreck your game, though.

Shared experiences (SE) describe interaction when an interpersonal dynamic is in equilibrium. Equilibrium is present when an interaction is characterized by an absence of tension, precluding the necessity for resolution. The equilibrium may be weak as when one actor briefly acknowledges the other, or strong as when two laugh together at a shared secret. Level 0 shared experience is impulsive and operates by a process of contagious enthusiasm. We observed no Level 0 in any of the teachers' shared experiences. Level 1 involves more conscious sharing but remains unilateral as the other's perspective is not taken into account. Level 2 involves reciprocal sharing of the other's perspective with one's own. Level 3 involves mutual collaboration in sharing. Let us consider some examples of teachers' shared experiences with children. (See Appendix B for SE category definitions.)

(2-Asking Information Question) T: Do you need a yellow?

C: (Shakes head)

(1-Acknowledging Minimally) T: O.K.

C: (Drawing pictures of dinosaurs; shows picture to teacher)

(1-Affirming Child) T: You made a nice place to put your

(1-Friendly Talking/Playing) dinosaur. He'll be hungry.

C: (In housekeeping area, wants to "surprise" teacher with a piece of pretend pizza) Close your eyes.

{1-Acquiescing to Child's Demand} T: (Closes eyes). They're closed.

C: Don't open them.

{1-ACQ} T: O.K.

C: Now open your eyes.

{1-ACQ} T: (Opens eyes)

{2-Friendly Talking/Playing} Oh, my goodness! What a party! It has pizza. I love pizza.

{2-Referring to Past Shared Experience} T: It was right after we went to the livestock show. Do you remember how cute all those little sheep were?

T: (Has prepared sentence strips with children's names and telephone numbers)

{2-Suggesting} So with these cards, you could write your friends' numbers down so you can call them during the summer,

{3-Fostering Friendly Interactions} and then you won't feel so lonely.

{3-Fostering Reciprocity} T: She's (parent) going to feed us. What would be a nice thing to do for D's mom since she's doing that for us?

The advantage of the conceptualization of enacted interpersonal understanding is that it permits assessment of interpersonal understanding at the moment of interaction. However, it should be noted that a particular level of enacted interpersonal understanding is not conceived as something an individual "has" or "does not have." While enacted interpersonal understanding may reflect an individual's upper level of developmental competence, it does not necessarily do so. Developmental levels in interpersonal understanding are not "hard stages" in the Piagetian or Kohlbergian sense (Kohlberg, 1987). Interpersonal understanding is dynamic. In a given situation, it may be influenced by a variety of situational and motivational factors. Particularly when assessing teachers' enacted interpersonal understanding, it is important to realize that we are not assessing an individual's competence that might be manifested in other situations. In the classroom, the teacher's enacted interpersonal understanding will be influenced by how she conceives appropriate teacher-child relationships, by what she believes about learning and how it is fostered, and also by supervisors' expectations. Therefore, when we assess the teacher's enacted interpersonal understanding, we are not assessing reflective understanding. We are assessing what is expressed. Since this expression constitutes an important part of the environment within which the child experiences "society" and constructs Self-Other relations, it seems important to study its nature.

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HYPOTHESES

The general hypothesis of this study is that the sociomoral atmospheres of the three classrooms will be different, and that differences will be manifested in part through teachers' enacted interpersonal understanding. Specifically, we expect that enacted interpersonal understanding of the constructivist teacher will include more Levels 2 and 3 and less Level 0 negotiation strategies and shared experiences than that of the direct-instruction teacher. Another hypothesis is that a larger proportion of the constructivist teacher's total interactions will be shared experiences, in comparison with the other teachers. That is, we expect the direct-instruction teacher's interactions with children to be dominated by negotiation strategies and the constructivist teacher's interactions to be more balanced between shared experiences and negotiation strategies. It is expected that the interpersonal understanding enacted by the electic teacher will fall midway between constructivist and direct-instruction teachers in all comparisons.

METHOD

Selection of Schools and Teachers

An Associate Superintendent in a large urban school district identified a principal who was interested in having a constructivist kindergarten in her lower SES school. Another Associate Superintendent recommended a school in a neighborhood comparable demographically to the first in which an exemplary DISTAR program was being implemented at all grade levels.

Finally, a third school in a demographically comparable neighborhood was identified in which an eclectic program was located.

No thoroughly trained constructivist teacher was available who met State and District requirements for certification. The teacher selected for the constructivist classroom was experienced in child-centered methods and had studied constructivist education intensively during the summer prior to the beginning of the study. She attended a course taught by the senior author and consulted with her during the fall semester.

The principal and curriculum coordinator of the direct-instruction school were asked to recommend their best kindergarten teachers. Of two recommended, one was selected because characteristics of children more closely matched those of children in the constructivist classroom. Similarly, of two teachers recommended in the third school, one was selected because characteristics of children more closely matched those of the children in the other two classrooms.

All three teachers were White, and most of the children in their classrooms were Black but included some Hispanic and a few White children. (See DeVries, Learned, and Morgan, in this issue for further description of children and their families.) Each teacher was told that the study focused on kindergarten program effectiveness in promoting social-cognitive competence, and each agreed to be videotaped during the spring of 1987.

Physical Characteristics and Routines of the Three Classrooms

Physical characteristics and routines of the three

classrooms corresponded to what one would expect based on paradigmatic differences among programs.

Direct-Instruction. The direct-instruction classroom for 22 children was furnished with a desk for every child, arranged in rows and child-sized chairs arranged in a U before an adult-sized chair. The teacher's desk in a remote corner was not used by the teacher when children were in the room. DISTAR lessons were conducted both with the entire class and in small groups. Small-group lessons of 20-30 minutes were conducted on a daily basis in reading and language. Arithmetic lessons observed during the time of the study were conducted with the whole class but had been conducted earlier in the year with small groups. When not engaged in group lessons, children were assigned worksheets to do at their desks, and when they were finished, they could read a library book or color the worksheet. While the teacher worked with a small group, the teacher's aide usually worked with another small group at a table on the opposite side of the room. Children were quiet and generally obedient. Children left the room for physical education, art, library, music, and lunch. After lunch, children put their heads on their desks and rested or slept for about 15 minutes. Occasional recess time outdoors was permitted. Expectations for children's behavior in the larger school environment were consistent with classroom expectations. For example, all children were expected to walk silently in a line with arms crossed over their chests when moving from the classroom to another part of the building. The principal and counselor sometimes spanked children for

misbehavior.

Eclectic. In the eclectic classroom for 19 children one half of the room was equipped with five tables, each of which could seat four children. In the other half of the room was a housekeeping center with child-sized kitchen equipment, a reading center, an easel for painting, a small slide, and a carpeted area for grouptime. The centrally-located teacher's desk was frequently used by the teacher when she checked children's worksheets. Gerbils, plants, and fish occupied space on one side of the room, and a sink with a drinking fountain occupied another. A bathroom was adjacent, shared with the class next door.

Grouptime activities with the entire class included listening to books read by the teacher and listening to instruction in reading and arithmetic, including directions for workbook pages to be done individually and checked by the teacher. When workbooks were completed and checked, children could do a prepared art activity (such as gluing "dinosaur bones" on a sheet of paper) or draw and color, choose a "ticket" to permit them to go to housekeeping, get a book, play with blocks, or play a game (in which the teacher sometimes participated). After lunch in the school cafeteria, children napped on towels on the floor for about one hour. Children were quiet and orderly as they followed a well-established routine. They left the classroom for physical education, library, and music with other teachers, and daily outdoor play. The teacher's aide functioned mainly to duplicate worksheets, prepare and distribute materials

to children, and watch as they worked. Located in a separate wing of the school with classrooms opening onto their own playground, kindergarten classes did not mingle in the larger school environment, and expectations were generally consistent in and out of their classroom.

Constructivist. The constructivist classroom for 21 children was equipped with a few small tables, plants, a housekeeping center similar to that in the eclectic classroom, blocks, art materials, commercial and teacher-made games, and books. There was no teacher's desk. Grouptime was held at the beginning and end of the morning, and at the end of the day when a snack provided by a parent was shared. During the morning, children chose from a variety of activities occurring simultaneously. The teacher sometimes sat with children at a writing table, sat on the rug with a physical-knowledge activity (such as making and trying out parachutes), or circulated throughout the classroom. A teacher's aide during the morning was generally occupied with playing card games and board games with children. The classroom was rather messy and noisy. After lunch in the school cafeteria, children napped on the floor, resting on towels for about an hour. Outdoor play occurred daily. In the afternoon, children continued activities, did workbooks (only at the end of the year when children asked for them), or had music, art, or physical education with different teachers. Classroom expectations conflicted with expectations in the larger school environment and with expectations of specialist teachers. Other teachers considered the constructivist classroom

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too noisy, and criticized children for not walking in a straight line in the hallway. In the cafeteria, a behavior-modification system rewarded children with "money" for good behavior which they could spend on trinkets in the school store. The principal sometimes spanked one child for misbehavior.

Procedure

Each teacher was videotaped while wearing a wireless microphone during two entire days in her classroom. Teachers were asked to conduct their classrooms as usual in order to provide a sample of typical days in the program they represented.

ANALYSIS

Detailed transcripts were written from videotapes of the three teachers. Using both tape and transcript, two coders (second and third authors) each coded half the tapes on all negotiation strategies and shared experiences. The initial coding manual was devised by Selman's colleagues (Stone, Robinson, and Taylor, 1980) for assessing preadolescents' negotiation strategies in after-school group projects. Their 52 negotiation strategy categories at four levels were revised and expanded to 65, and operational definitions and examples were written for the manual's use with adults. Inspired by later work by Selman and his colleagues (Selman and Yeates, 1986; Selman, 1989), we added 24 categories of SE at four levels. The senior author also coded all tapes, and differences in coding were reconciled with the other two coders. Almost all disagreements were resolved through discussion to 100% agreement. In the case of unresolved disagreement, the senior author acceded to the

other coder's judgment.

It should be noted that it was not possible for coders to be blind to the program represented by the teacher. With this constraint in mind, self-conscious efforts were made to insure objectivity in coding. The main safeguard was the careful operational definitions of the 89 categories that, in turn, provided operational definitions of levels and differences between negotiation strategies and shared experiences. One coder (the second author) was selected who had no background in constructivist education and would not be expected to be biased. The coders having a constructivist orientation were on guard. When they felt their objectivity in jeopardy, they consulted the second author. All three coders called for conferences on events that were difficult to code, and coding of these events was by consensus.

Reliability studies were conducted by the second author. First, he independently coded three hours of videotape (one hour for each teacher) that had been reconciled by the other two coders and calculated percent agreements. Results showed that for assigning interactions to negotiation strategies or shared experiences, the percent of agreement was 95%. Agreement on coding levels of negotiation strategies and shared experiences was 95%, and agreement on specific categories 82%. To consider further the coding reliability, a fourth coder was engaged who was told nothing about the nature of the study. After a brief training, she coded randomly selected four 15-minute video segments for each teacher. Percent agreement was 94% for

assigning an interaction to negotiation or shared experience, 92% for level, and 72% for categories.

Appendix A provides the list of the NS categories and brief definitions. Appendix B provides the list of SE categories and brief definitions. (Coding manual is available from senior author.) Frequency and percentage of NS and SE Levels 0, 1, 2, and 3 categories for each teacher were tabulated. Since only one teacher represented each program and because coded behaviors are not statistically independent, statistical analyses are not appropriate. Results are presented descriptively.

RESULTS

Time on tape for the three teachers totalled about 29 hours (DI=10.13 hours, ECL=9.17 hours, CON=9.88 hours).

The hypothesis of a greater proportion of SE than NS for the CON teacher, in comparison with the other teachers, was confirmed. Table 1 shows frequency and percentage of

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Table 1 about here

20,914 NS and SE for teachers in the three programs. The CON teacher had the highest percentage of SE and DI the least. As predicted, the DI teacher's interactions with children were predominantly NS (almost 95% of total interactions). The CON teacher's interactions were more balanced between NS and SE, with SE constituting one-third of total interactions. The ECL teacher's interactions were predominantly NS and, as expected, she stood midway in between the CON and DI teachers on

percentages of NS and SE.

Results shown in Table 2 confirm the hypothesis that more of

Table 2 about here

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the CON teacher's overall enacted interpersonal understanding is at higher levels than that of the other teachers. The CON teacher had less Levels 0 and 1 NS and more Levels 2 and 3 NS than DI and ECL teachers. While over 90% of the DI teacher's total interactions are characterized as Level 1 NS, only 37% of the CON teacher's interactions were at this NS level. Whereas 25% of the CON teacher's interactions were characterized as Level 2 NS, only 2% of the DI teacher's and 5% of the ECL teacher's interactions were at this NS level. The DI teacher engaged in more Level 0 NS than the other teachers, and the CON teacher engaged in more Level 3 NS than the other teachers. Analysis of SE revealed a pattern similar to that of NS. The CON teacher engaged in more Levels 2 and 3 SE than the other teachers. (It should be noted that the percentages of Level 3 NS and SE are deflated as a result of our scoring procedure. Frequently, a dialogue consisting of a number of interactions was coded as one Level-3 SE or NS.)

To describe further differences among the three teachers in their expressed interpersonal understanding, we grouped categories into the following general strategies:

1. Direct Verbal and Physical Strategies to Get Child To Do Something--0 Overwhelming and Physically Grabbing,. Level 1

Bribing, Competing, Demanding, Directing, Physically Restraining or Directing, Punishing, Recognizing Approved Behavior, Referring to Rule, Requesting, Rewarding, Threatening, and Level 2 Directing in Coordination with Other, Encouraging Self-Regulation, Friendly Persuading, Giving Reason for Rule, Invoking Logical and Natural Consequences, Showing and Explaining, and Warning of Natural or Logical Consequences.

2. Focus on Academic Content--Level 1 Acknowledging Academic Content, Correcting Incorrect Answer, Asking Academic or Test Question, and Instructing.

3. Stimulation of Reasoning--Level 2 Encouraging Generation of Ideas and Stimulating Physical Knowledge.

4. Focus on Social Relations among Children--Level 2 Raising Issues of Fairness, Referring to Turntaking Sequence, and Level 3 Appealing to Consider Other's Comfort, Encouraging Solution to Interpersonal Problems, Discussing Fairness Processes, Presenting Problem to Group, Referring Child to Child for Assistance, Respecting Property Rights, and Stating Points of View. 5.

5. Negation of Children--Level 0 Denying and Rejecting, Humiliating, Level 1 Criticizing, Negating, Excluding, and Being Sarcastic. Table 3 shows the frequencies and percentages resulting from these groupings.

Table 3 about here

The first finding is that the DI teacher's interactions

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reflect a predominant authoritarian focus in regulating children's behavior. Over 40% of her efforts to Get Children To Do Something were at Levels 0 or 1. In contrast, less than 22% for the constructivist teacher. Only 1% of the DI teacher's interactions were at Level 2 Get Children To Do Something, while over 11% of the CON teacher's were at this level. The percentages of the ECL teacher's efforts (24% at Levels 0 and 1 and 2% at Level 2) fell in between those of the DI and CON teachers. The single category most frequently used by the DI teacher was Level 1 Demanding, unilaterally commanding without giving explanation or reason (24% of total interpersonal understanding. In contrast, the CON teacher used this strategy much less frequently (less than 5%). The ECL teacher fell in between, Demanding in almost 10% of her interactions with children.

Table 3 shows that the Focus on Academic Content, as predicted, was much stronger in the DI classroom (where 38% of the NS were so focused) than in the CON classroom (where less than 7% of the NS focused on academic content. The ECL teacher equalled the DI teacher in this respect, with almost 38%. The DI teacher's Test Questions comprised a significant part of her interactions with children (almost 16% of total expressions of interpersonal understanding), while this characterized little of the CON teacher's interpersonal understanding (less than 1%). The ECL teacher's use of Test Questions fell in between (almost 10%).

As expected, the CON teacher Stimulated Reasoning to a

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greater extent (almost 4% of NS) than DI (less than 1%) or ECL (less than 1%) teachers. The CON teacher used a higher percentage (over 3%) of Levels 2 and 3 NS in her Focus on Social Relations among children, in comparison to the DI (less than 1%) and ECL (less than 1%) teachers. Negations of children were highest for the DI teacher (almost 7%), in comparison with CON (1%) and ECL (3%).

The CON teacher had a much wider range of different types of SE with children, being observed employing 20 of the 21 categories at Levels 2 and 3. The DI teacher was observed in 10 of these categories and the ECL teacher in 15. Three categories that can be grouped into strategies that acknowledge children include Level 1 Simple Acknowledging, Acknowledging Possession or Appearance, Affirming, and Evaluating Child Positively. The CON teacher had far more of these experiences with children (over 24% of total interactions) than DI (4%) or ECL (11%).

SUMMARY AND DISCUSSION

This microanalytic description of teachers' interactions with children suggests that the sociomoral atmospheres of the three classrooms are considerably different in terms of teachers' enacted interpersonal understanding. The children in the direct-instruction classroom experience an almost totally unilateral relationship with their teacher. In Piaget's terms, it appears to be extremely heteronomous. That is, they experience school as a place where the teacher acts to control them according to her desires and expresses little consideration for their feelings or ideas. This leaves little opportunity for shared experiences or

for construction of higher level negotiation strategies.

The sociomoral atmosphere of the constructivist classroom, in contrast, is characterized by much more reciprocity and intimacy. The children in this classroom enjoy a great deal of shared experiences with their teacher who acknowledges and affirms them and engages in friendly and affectionate conversation and play. The constructivist teacher expresses respect for children in a variety of ways. She minimizes the exercise of unilateral control and expresses consideration for children's desires and feelings. She encourages children's ideas and upholds ideals of fairness, friendship, and cooperation, including conflict resolution through negotiation.

The eclectic teacher's effort to combine some child-centered activities with an academic emphasis results in a less constrained sociomoral atmosphere than in the direct-instruction classroom. However, it is in general closer to the direct-instruction atmosphere than to the constructivist atmosphere.

While the results do not provide a basis for generalizations about all classrooms reflecting the cultural-transmission and cognitive-developmental paradigms, the research does provide the basis for hypotheses of correspondences between classroom interpersonal milieux and children's enacted interpersonal understanding. With this microanalysis of the nature of teacher-child interaction, it can be hypothesized that the children in these classrooms have different experiences of their selves and others. It is expected that these different experiences will influence the development of children's interpersonal

understanding in ways that favor a leading edge of development at Level 2 in the constructivist classroom and a trailing edge of development at Level 0 in the direct-instruction classroom. The results of the companion study confirm this expectation (DeVries, Learned, and Morgan, in this issue).

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Appendix A

Categories of Negotiation Strategies at Three Levels

Level 0

0-ADR Absolutely denying and rejecting other: Deliberately fails to respond to clear, repeated overture. Denials of child's presence occur when a child comes to a teacher in such a way as to ask or make a statement with the clear intention of getting a response or an acknowledgement.

0-HUM Humiliating child: Belittles child.

0-OO Overwhelming other: Intimidates by emotionally overwhelming.

0-PG Physically grabbing: Uses strong physical means to coerce child.

Level 1

1-ACQ Acquiescing to child's demand: Follows child's demand or request.

1-ACW Acknowledging Academic Work: Affirms child's correct answer to demand or test question, praises/encourages effort.

1-ASS Asserting: Makes statement about Self's action or idea.

1-BRI Bribing: Offers arbitrary reward for behavior.

1-CIA Correcting Incorrect Answer: Negates by correcting child's error.

1-CLA Claiming: Asserts that something belongs to teacher.

1-COM Complaining: Expresses dissatisfaction about Self's own situation.

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1-CPT Competing: Promotes competititon among children or between teacher and children.

1-CRI Criticizing: Expresses dissatisfaction about a child's behavior, appearance, academic performance, attitude, etc., in recriminating way.

1-DEM Demanding: Tells a child to do something in an imperative tone.

1-DIR Directing: Tells a child to do something in a helpful spirit and with less urgency than demanding.

1-DP Denying permission: Denies permission when child makes request.

1-EXC Excluding: Excludes child from interaction with teacher after child attempts to initiate interaction.

1-GP Giving permission: Grants permission of child's request.

1-INS Instructing: Prompts or gives brief explanation necessary to further teacher's own project/agenda.

1-IQ Asking information question: Asks question to get information for the furtherance of the teacher's project.

1-JAU Justifying based on authority: Invokes authority of school, parent, principal, etc., to justify position.

1-JME Justifying in "me" terms: Defends based only on own point of view.

1-MAN Appealing to manners: Requires adherance to social convention.

1-NEG Negating other: Rejects other's idea or action.

1-OFF Offering: Offers verbal or physical assistance to a child on teacher's own whim.

1-PR Physically Restraining or Directing: Uses physical contact with child to get attention or give emphasis to demand or directive.

1-POL Using polite conventions: Uses conventional expression of politeness in perfunctory way, without genuine feeling.

1-PUN Punishing with arbitrary consequences: Administers punishment that has arbitrary relation to misdeed.

1-QRQ Requesting in question form: Makes request in question form that is a polite directive.

1-RAB Recognizing approved behavior: Acknowledges specific approved behavior.

1-REC Leading recitation: Leads children in recitation, done at teacher's insistence.

1-REW Rewarding: Gives tangible reward to child for behavior desired by teacher.

1-RUL Referring to rule: Reminds child of an established classroom rule.

1-SAR Being sarcastic: Comments to or about child in ironic or sarcastic manner; meaning is other than surface meaning.

1-THR Threatening with arbitrary consequence: Says in menacing tone that an undesirable, arbitrary consequence will result if child fails to comply with demand.

1-TQ Asking an academic or test question: Asks child academic question to see if child knows answer.

Level 2

2-ADV Asking child's advice: Seeks child's opinion on how to do something.

2-AOF Asserting own feelings: Expresses personal feeling as appeal to child to empathize and act out of consideration for teacher or to understand her point of view.

2-APOL Apologizing: Apologizes to child in sincere way.

2-CHO Offering a choice: Gives choice to child out of limited options.

2-CHOW Checking out with the other: Asks child if he or she is able to do something or if he or she agrees with statement, action, or activity proposed by teacher.

2-CPM Compromising: Intervenes in a conflict situation between two children and proposes alternative that might satisfy both.

2-DIR Directing in Coordination with Other: Tells someone to do something that cooperates with other.

2-EGI Encouraging generation of ideas: Asks children to reason and generate ideas.

2-ESR Encouraging self-regulation: Appeals to child to control behavior in self-conscious way so as to respect rights of others or achieve coordination with others.

2-FAIR Raising issue of fairness: Calls attention to fairness in interactions.

2-FP Friendly persuading: Tries to change other's feelings or behavior by manipulation or flattery.

2-GT Guilt tripping: Deliberately invokes feeling of guilt by referring to teacher's past actions and good intentions and calling for reciprocation.

2-ILC Invoking logical consequences: Administers or refers to natural or logical consequence of misdeed.

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2-IQ Asking information question: Asks for information in order to facilitate activity in which two are engaged.

2-JWE Justifying in "we" terms: Defends or gives reason for action or opinion in terms of point of view of group in which teacher includes self.

2-PRM Promising: Makes a promise that is a contract.

2-RUL Giving reason for rule: Gives reason for rule.

2-SHO Showing and explaining: Gives reasons for demands and directives, etc., or explains in terms of coordination or conditions necessary for shared experience.

2-SPK Stimulating physical knowledge: Asks questions or makes comments regarding physical phenomena to stimulate reasoning.

2-SUG Suggesting: Offers suggestion or help that is optional for child to accept.

2-TUR Taking turns: Sets up turntaking sequence or refers to one in effect to coordinate actions.

2-WLN Warning about logical and natural consequences: Calls to child's attention undesirable natural or logical consequences that will result from child's not-yet-performed action.

Level 3

3-COC Appealing to consider other's comfort: Appeals to child to consider comfort of other.

3-ESI Encouraging solution to interpersonal problems: Suggests that children reflect on and propose solutions to interpersonal problems.

3-FAIR Referring to process: Encourages children to treat others in fair and equitable manner.

3-PROB Presenting problem to group for solution: Articulates problem for group's solution.

3-RCC Referring child to child for assistance: Directs child to another child to get or give assistance or initiate an activity.

3-ROP Respecting property of others: Encourages respect for other's or communal property.

3-SPV Stating points of view: Articulates individual points of view.

Appendix B

Categories of Shared Experience at Three Levels

Level 1

1-ACK Acknowledging minimally: Indicates minimal neutral or positive recognition of child.

1-AFF Affirming child: Affirms child by acknowledging child's feeling, desire, or non-academic idea or action.

1-APA Acknowledging possession or appearance: Comments in evaluative tone on child's appearance or possession of non-academic nature.

1-APP Expressing appreciation: Expresses appreciation to child.

1-FT Friendly talking/playing: Converses in casual, relaxed manner about content not related to specific instruction; plays/pretends in unilateral way.

1-GRE Greeting/saying good-bye: Greets child or says goodbye in friendly manner.

1-VMIM Verbally mimicking: Repeats child's verbalization in playful or friendly way.

Level 2

2-ACO Acknowledging cooperation among children: Comments on children's cooperation/coordination/concern for others.

2-AWA Acknowledging wrong answer: Acknowledges wrong answer or incorrect statement non-judgmentally.

2-CC Consoling and commiserating: Expresses concern/sympathy for another's distress or difficulty, or tries to console.

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2-CFT Coordinated friendly talking/playing: Engages in friendly conversation/play that reflects coordination of self and other or affirms child's friendly comment about another.

2-ELA Elaborating other's idea: Reflects child's idea in expanded form that demonstrates to child that s/he is understood.

2-FEE Inquiring into feeling of other: Asks about or comments on child's emotions.

2-FSE Referring to future shared experience: Refers to pleasurable experience to be shared in future.

2-GAI Making group aware of individual: Calls group's attention to individual for purpose of sharing individual's concern, problem, idea, wish, accomplishment, personal account.

2-INV Inviting other to do something: Invites other to do activity with teacher, for child's pleasure.

2-NVA Nonverbally expressing affection: Physically expresses genuine affection for child.

2-OWN Sharing own experience: Gives help or consolation by telling about parallel in own experience.

2-PSE Referring to past shared experience: Comments to reflect on pleasurable experience shared by self and other in past.

2-RIT Leading ritual: With positive affect, leads group in coordinating with one another in non-coercive ritual song, fingerplay, etc.

2-SEC Sharing secret: Says something to another (or listens to another) in conspiratorial or secretive fashion, indicating exclusivity of communication.

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Level 3

3-FEM Fostering empathy/sympathy: Encourages child's concern for others.

3-FF Fostering friendly interactions: Intervenes to foster play and friendly interactions and feelings among children.

3-REC Encouraging reciprocity: Encourages friendly reciprocity toward other.

Table 1

Frequency and Percent of NS and SE for Direct-Instruction, Eclectic, and Constructivist Kindergarten Teachers

Program	NS		SE		
	F	%	F	%	Total
DI	8,316	94.38	495	5.62	8,811
ECL	4,518	81.70	1,012	18.30	5,530
CON	4,371	66.50	2,202	33.50	6,573

Table 2

Frequency and Percent of Total Interactions at Four Levels of NS and SE for Direct-Instruction, Eclectic, and Constructivist Kindergarten Teachers

Program	NS Level				SE Level		
	0	1	2	3	1	2	3
DI							
F	54	8,065	194	3	439	56	-
%	(0.61)	(91.53)	(2.20)	(0.03)	(4.98)	(0.64)	-
ECL							
F	11	4,219	279	9	853	157	2
%	(0.20)	(76.29)	(5.05)	(0.16)	(15.42)	(2.84)	(0.04)
CON							
F	2	2,481	1,652	234	1,790	401	13
%	(0.03)	(37.75)	(25.13)	(3.56)	(27.23)	(6.10)	(0.20)

Table 3

Frequency and Percentage of Grouped Categories of Negotiation Strategies for Direct-Instruction, Eclectic, and Constructivist Kindergarten Teachers

	DI	ECL	CON
	F & %	F & %	F & %
Direct Verbal and Physical Strategies To Get Child To Do Something (1)			
Levels 0 and 1	3,536 (40.2%)	1,329 (24.0%)	1,418 (21.6%)
Level 2	101 (1.1%)	127 (2.2%)	761 (11.6%)
Focus on Academic content (2)	3,377 (38.33%)	2,087 (37.74%)	443 (6.8%)
Stimulation of Reasoning (3)	13 (0.2%)	4 (0.1%)	256 (3.9%)
Focus on Social Relations among Children (4)	5 (0.1%)	19 (0.3%)	325 (3.3%)
Negation of children (5)	595 (6.8%)	177 (3.2%)	74 (1.1%)

1. Level 0 Overwhelming and Physically Grabbing, Level 1 Physically Restraining, Demanding, Directing, Requesting, Recognizing Approved Behavior,Bribing, Competing, Punishing, Rewarding, Referring to Rule,and Threatening and Level 2 Directing, Friendly Persuading, Encouraging Self-Regulation, Invoking Logical and Natural Consequences, Reason for Rule, Showing and Explaining, and Warning of Natural or Logical

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Consequences.

2. Level 1 Acknowledging Academic Work, Correcting Incorrect Answer, Asking Academic or Test Question, and Instructing

3. Level 2 Encouraging Generation of Ideas and Stimulating Physical Knowledge

4. Level 2 Raising Issues of Fairness, Referring to Turntaking Sequence, and Level 3 Appealing to Consider Other's Comfort, Encouraging Solution to Interpersonal Problems, Discussing Fairness Processes, Presenting Problem to Group, Referring Child to Child for Assistance, Respecting Property Rights, and Stating Points of View

5. Level 0 Denying and Rejecting, Humiliating, Level 1 Criticizing, Negating, Excluding, and Being Sarcastic